

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

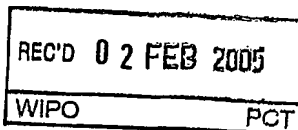
(PCT Rule 44bis)

|  |   |  |
|--|---|--|
| Applicant's or agent's file reference<br>DC5163PCT1  | <b>FOR FURTHER ACTION</b>   | See item 4 below   |
| International application No.<br>PCT/US2004/032518   | International filing date ( <i>day/month/year</i> )<br>04 October 2004 (04.10.2004) | Priority date ( <i>day/month/year</i> )<br>26 November 2003 (26.11.2003) |
| International Patent Classification (8th edition unless older edition indicated)<br>See relevant information in Form PCT/ISA/237 |   |  |
| Applicant<br>DOW CORNING CORPORATION   |   |  |

|                                     |  |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
|-------------------------------------|--|---|-----------|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| 1.                                  | This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).  |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| 2.                                  | This REPORT consists of a total of 6 sheets, including this cover sheet.   |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
|                                     | In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.  |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| 3.                                  | <p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> | <input checked="" type="checkbox"/>   | Box No. I | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I  | Basis of the report   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>            | Box No. II   | Priority  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input checked="" type="checkbox"/> | Box No. V  | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| <input type="checkbox"/>            | Box No. VIII   | Certain observations on the international application   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |
| 4.                                  | The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).   |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                          |              |   |

|   |  |
|---|--|
| The International Bureau of WIPO<br>34, chemin des Colombettes<br>1211 Geneva 20, Switzerland | Date of issuance of this report<br>29 May 2006 (29.05.2006)  |
| Facsimile No. +41 22 740 14 35  | Authorized officer<br><br><div style="text-align: center; font-weight: bold;">Simin Baharlou</div> |
| Telephone No. +41 22 338 71 30  |  |

# PATENT COOPERATION TREATY



From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

2700

PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/US2004/032518

International filing date (day/month/year)  
04.10.2004

Priority date (day/month/year)  
26.11.2003

International Patent Classification (IPC) or both national classification and IPC  
C08L83/04

Applicant  
DOW CORNING CORPORATION

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2004/032518

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2004/032518

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims | 1-16 |
|                               | No: Claims  |      |
| Inventive step (IS)           | Yes: Claims |      |
|                               | No: Claims  | 1-16 |
| Industrial applicability (IA) | Yes: Claims | 1-16 |
|                               | No: Claims  |      |

**2. Citations and explanations**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

D1: EP-A1-1 172 412 (JSR CORPORATION) 16 January 2002 (2002-01-16)

D2: US-A-6 100 332 (YOSHIKAWA ET AL) 8 August 2000 (2000-08-08)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 8, 13, 15 and 16 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

A method of making a silicone polymer and organic polymer containing alloy and/or hybrid emulsion composition comprising

- (i) preparing an emulsion containing a silicone polymer which is a condensate of silanes of formula  $(R_1)_nSi(OR_2)_{4-n}$  (=formula 1)(cf. D1, p.3, l.34-p.4, l.58)
- (ii) adding to the emulsion in (i) components for preparing an emulsion containing an organic polymer by free radical emulsion polymerization of one or more ethylenically unsaturated organic monomers; and
- (iii) heating the emulsion from (ii) (cf. D1, paragraph 66)

The subject-matter of claim 1 of the present application therefore differs from this known D1 in that:

- (i) a linear silicone polymer is used which is prepared by emulsion polymerization in which
  - (a) the ring of a cyclic siloxane oligomer is opened, in which
  - (b) an hydroxy endblocked siloxane oligomer is condensed, using a acid or base catalyst in the presence of water, or in which
  - (c) an hydrogen endblocked siloxane oligomer and a vinyl

endblocked siloxane oligomer are reacted by hydrosilylation using a catalyst.

The problem to be solved by the present invention may therefore be regarded as to provide a further method in which vinyl monomers are polymerized in an emulsion particle in the presence of a siloxane component (cf. D1, p.3, l.10-11).

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

D1 discloses silicone condensates of silanes of formula  $(R1)_nSi(OR2)_{4-n}$  (=formula 1). For  $n=2$  linear siloxanes are as well disclosed. The present application selects **linear** silicone polymers and discloses three known methods (a), (b), (c) for their production.

It is not shown in the examples of the present application that a surprising effect is achieved by the selection of **linear** silicone polymers compared to all kinds of silicone polymers (linears+resins) as disclosed in D1.

Document D2 discloses as well a method of making a silicone polymer and organic polymer IPN starting with silicone **resins** and comprising the steps (i)-(iii) (cf. D2, col. 9, l.40-50 and claim 1). It is not shown in the examples of the present application that a surprising effect is achieved with **linear** silicone polymers compared to the resins of D2.

2. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 8, 13, 15 and 16 which therefore are also considered not inventive.
3. Dependent claims 2-7 and 9-12 (claim 14 is missing) do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.